

# VENETIAN COLOUR

MARBLE, MOSAIC, PAINTING AND GLASS 1250-1550

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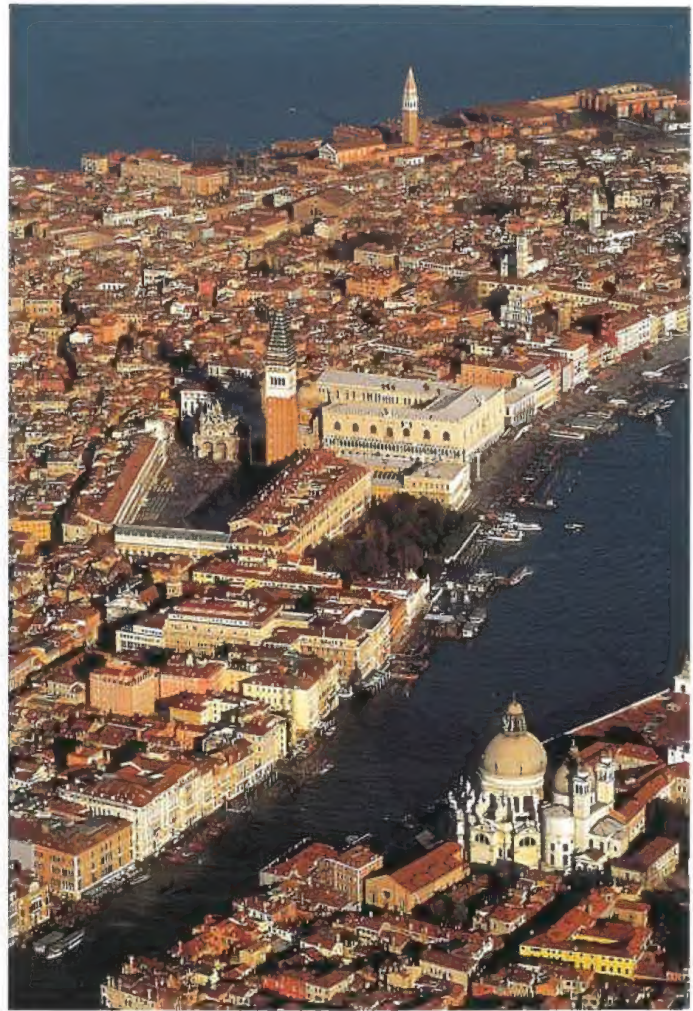


## LIVING ON A LAGOON

### *Redefining the natural*

The site of the city of Venice, in the middle of a lagoon, affords unusual commerce between the organic and the man-made (figs 2 and 3). Demarcations between the natural and the artificial are not easily drawn. The arteries of the city, its canals, follow the meanders of the tidal channels of the lagoon. 'It is two miles from terra firma', wrote an Irish visitor in 1323, 'and its streets are one-third paved in brick and two-thirds made of navigable streams, through which the sea ebbs and flows continuously without respite' (fig. 4).<sup>1</sup> In a city without walls, palaces of marble and glass are raised on mud-banks. All the materials for building, for shelter and its ornamentation, have to be fetched from afar. At a distance from terra firma, ideas of the natural and the normal are redefined, and what seems miraculous made real.

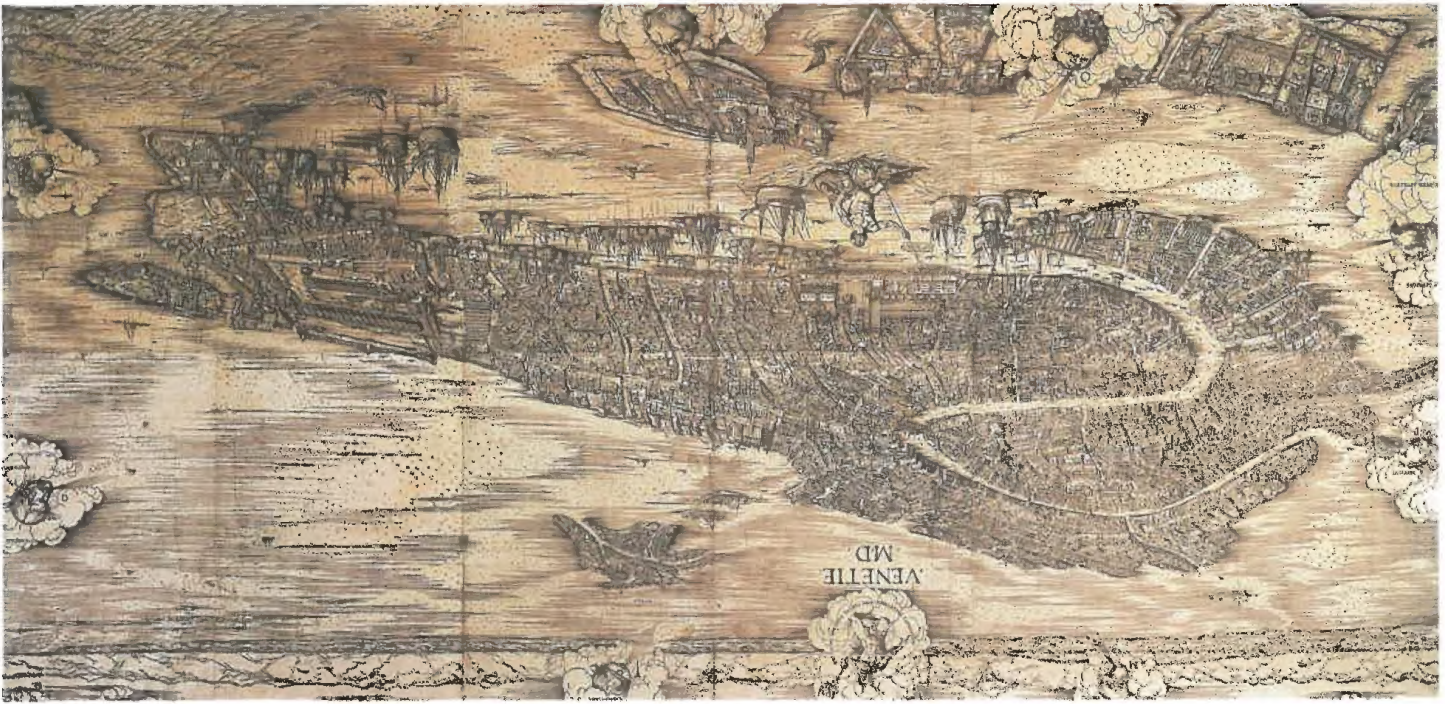
Whereas the traveller approaching Siena will see here and there fields of richly coloured earth which prepare the eye for the sheer warmth of the brick walls and tiled roofs of the city, in Venice there can be no relation perceived between land and the materials of the city. The materials of Venetian building are brought from a distance, detached from their origins. Isolated by its blue belt of water, there is a necessary uprooting of materials, and a fresh bringing together. The houses of the Venetians, in all their colours, do not seem to grow from the ground, for neither their bricks nor their tiles share the colour of a visibly sustaining earth, and their stones and marbles cannot be checked against the tone and texture of any neighbouring cliff or exposed bed of rock (figs 5, 6 and 7). In such a setting all the materials of shelter and the ornaments of display acquire new distinction. In its unique location Venice, cut off



2 Aerial view of Venice with San Marco.

1 Carpaccio, detail of fig. 17.





3 (above) Jacopo de  
Barbari, *View of Venice*  
(1500). Woodcut from  
six blocks, 139 X 282 cm.



4 Plan of Venice  
(c.1346), in the *Cronaca*  
Magna, Venice, Biblioteca  
Nazionale Marciana.



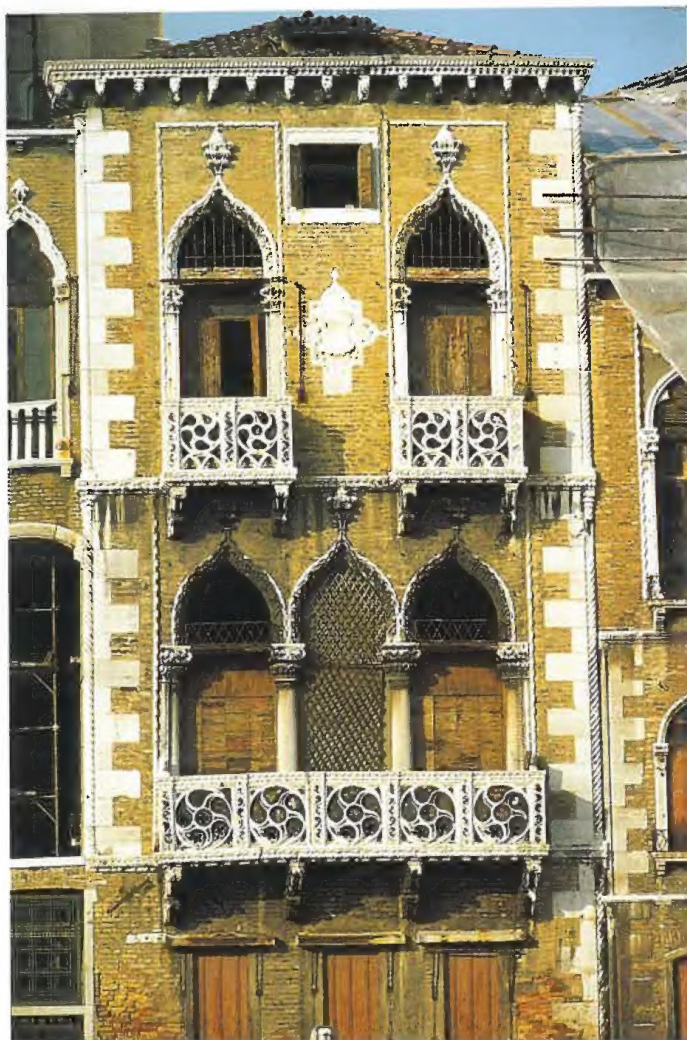


5 and 6 (above) Ca' Gussoni  
(end of fifteenth century),  
attributed to Pietro  
Lombardo, and detail.



7 Pattern of red and  
yellow bricks on façade of  
the former Church of San  
Zaccaria (c.1400).





8 Detail of façade of Ca' Contarini-Fasan (second half of fifteenth century).

from the earth, invited celestial comparison: the reaction of the Irish visitor of 1323 anticipates many a later eulogy: 'it is completely set in the sea, yet by the name of its beauty and the merit of its elegance it could be set between the star Arcturus and the shining Pleiades.'<sup>12</sup>

That something so fragile should endure is a source of wonder, a theme that takes us back to the earliest written testimony, the description of the Venetians in AD 523 by Cassiodorus, the praetorian prefect of King Theodoric the Ostrogoth: 'For you live like sea birds, with your homes dispersed, like the Cyclades, across the surface of the water. The solidity of the earth on which they rest is secured only by osier and wattle; yet

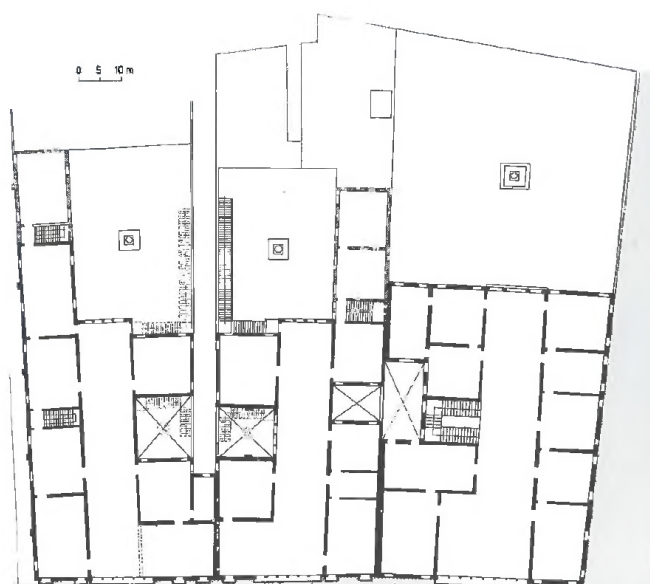
you do not hesitate to oppose so frail a bulwark to the wildness of the sea.'<sup>13</sup> By the end of the Middle Ages the frail bulwark had been strengthened with brick and stone, the wondrous fragility now become an ornament, transposed into the delicate tracery of Gothic palaces (fig. 8).

### *Intimidation by display*

In the Venetian marking of territory, display replaced defence: the primary function, shelter, was overtaken by a secondary function, ostentation. Intimidation by display is a theme which will recur in many contexts in this exploration of Venetian colour. To visitors accustomed to heavily walled cities and towns, Venice's lack of fortification, together with its flaunting of riches, appeared amazing. They assumed that the lagoon acted as a defence: as Felix Fabri, a Dominican friar from Ulm who passed through Venice in 1483, remarked, the city 'has the ocean for a pavement, the straits of the sea for a wall, the sky for a roof'.<sup>14</sup> To the Venetians themselves, especially those of the Renaissance, who constructed myths of divine foundation and miraculous preservation, the idea that water took the place of walls was common coin.<sup>15</sup> An inscription by the Magistrato alle Acque of 1553, puts it succinctly: 'Venice, founded at God's command among the waves, surrounded by water, protected by walls of water. Whoever dares to despoil this asset of the community shall be no less severely punished than he who damages the walls of this native city. This edict shall stand for all time.'<sup>16</sup>

In fact the celebrated openness of Venetian architecture, especially of the palaces, was in part born of necessity. Building on unstable mudbanks, the Venetians needed to keep the superstructure of their buildings light; walls were thinner than elsewhere, and vaulting in stone almost unknown. In a city where space was at a premium – urban expansion was limited – even palaces tended to be built abutting one another. On the Grand Canal, the most desirable address for patricians, palaces support one another like books on a shelf, their façades the narrow spines facing the waterfront (fig. 9). Windows had to be generously clustered in long arcades on the façades to admit light into the depth of the buildings (fig. 10).





9 (above) Grand Canal with Ca' Giustinian (double palace of second half of fifteenth century) and Ca' Foscari (begun 1452).

10 Plans of Ca' Giustinian and Ca' Foscari.





11 Forecourt of Scuola Grande di San Giovanni Evangelista (1478–81), attributed to Pietro Lombardo.





12 Giovanni Bellini, *Coronation of the Virgin* (c.1471-4). Central panel, 262 × 240 cm. Pesaro, Museo Civico.





13 Paolo Veronese, *Feast of Saint Gregory* (1572). Canvas, 477 × 862 cm. Vicenza, Monte Berico.

Dispensing with fortification (and fortification in the late Middle Ages was often more symbolic than functional) licensed playfulness in denoting inside and outside. Walls often turn out to be merely a screen, as at the entrance to the forecourt of the Scuola Grande di San Giovanni Evangelista (fig. 11). For the Venetian painters windows, doorways or other apertures were not necessarily passages from light to darkness or darkness to light: the same is true of the 'window' in the throne of Giovanni Bellini's *Coronation of the Virgin* at Pesaro (fig. 12). Contemplating a feast scene by Veronese (fig. 13), which spills over terraces and stairs, any ultramontane, cold-climate distinction between colour and light of interior and exterior must be revised. Flow between inside and out is characteristic of Venetian living. The scenographic sense was nurtured by daily events of passage. The palaces of the Venetian merchant-patricians served as domicile and warehouse: goods arrived by boat at the watergate, were unloaded, stored on the ground floor and then frequently shipped off again;

while from the living quarters on the floors above balconies provided vantage points where the women, normally confined to the house, could emerge to enjoy the sun, the air and the spectacle of the canal. As Francesco Sansovino commented in his sixteenth-century guidebook to the city, 'Outside the windows it is their custom to project balconies surrounded by columns; little more than waist-high these are very convenient in summer for taking the cool air'.<sup>7</sup> Traffic of this kind – sometimes slow and lingering – between inside and out is not to be found in quite this manner in other Italian cities.

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### *Tidelines, reflections and trading spaces*

On a lagoon, boundaries are not rigid, tides raise and lower, ever so slowly, the demarcation between water and building: in no other city is the base-line from which architecture rises so variable. The physical environment, its textures and colours, is as sensitive as a barometer to changes in the weather. After a storm the waters of the canals and the lagoon are aerated, they lose their transparency, they turn jade green, opaque and crested with white. Then the vigour of the waters, the currents of the lagoon, are revealed as the prows of boats cleave the dense colour, ploughing a momentary furrow of jade veined salt white. Such colour is endless, abundant, unfathomable, imbued with latent energies. On the lagoon, colour manifests itself by turns as a phenomenon adhering to surface, or spreading into a film, or filling a volume.<sup>8</sup> It may bound, may veil or may defy limit and definition, opening to the abyss and chasm of space. Venetians as a maritime people needed to keep a weather-eye open to their changeful environment: their exploration of colour begins with this dwelling amongst the waters of lagoon and canal.

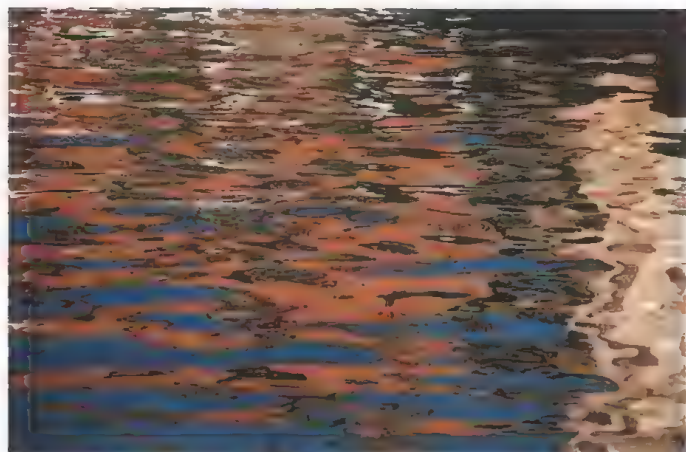
On clear days the water appears glassy, reflecting either the blue sky or the ochres, peach and rust reds of plastered walls. The surface is laced with small ovals, interlocking, rocking, molten, mercurial, shimmering in their alternation of brilliant sky blue and intense hues of orange (fig. 14). Such colour is like a substantial film, elastic and glossy, adhering to the surface, moving

with the undulations of the waters yet nowhere revealing its depths. A gust of wind, or the disturbance caused by a passing gondola, will fracture and subdivide the kaleidoscope without introducing any moderation, blending or muddying of hue. No city built on land can offer so brilliant and so strange an intermingling and intensifying of the colour of the sky and the colour of the buildings on the surface of its thoroughfares. What is above is reflected in what lies below, the brightness of the water may outshine the brightness of the sky, upsetting the normal sense of hierarchy from height to depth, of lightness above and darkness below.

Studies of perception reveal that in our bodily relation to an environment manifold visual and other stimuli are correlated, and that, typically, organisms orientate by an unconscious co-ordination of the pull of gravity with the normal experience that light falls from above. In Venice such co-ordination is frequently thrown into suspense or inverted by mirroring in water. For the lagoon-dweller what James Gibson calls the 'affordances' of the environment – what furnishes shelter, or sustenance – differ from those on land.<sup>9</sup> A special set of affordances creates its own patterns of attention and constructions of meaning. Travel by boat reawakens awareness of balance that on terra firma is readily taken for granted (here is one source of those figures by Tintoretto that wheel and tip in balletic postures) (fig. 15).

The setting of the city amidst water also involved attitudes to space and colour that are historically specific, more mental than retinal but in turn informing vision.<sup>10</sup> The city as an agglomeration of buildings, the communal homestead, is compact, absolutely limited by water, yet this same water extends seamlessly through to the great spaces of the Republic's maritime empire. In Carpaccio's monumental canvas the *Lion of Saint Mark* (fig. 16), commissioned for a government office, the stepping of the lion on to the shore alludes to Venice's claim to its mainland conquests, while the ships with billowing sail heading toward the horizon indicate its trading dominion. Land, in any terrain but the desert, is necessarily varied, differentiated, whereas water like air has a quality, universal and homogenous, that readily proposes to the imagination a peculiar sense at once of unlimited extent and of tangible connection

14 Reflections on a Venetian canal.







15 Jacopo Tintoretto, *Saint Mark rescuing the Saracen* (1562–6). Canvas, 398 × 337 cm. Venice, Accademia.

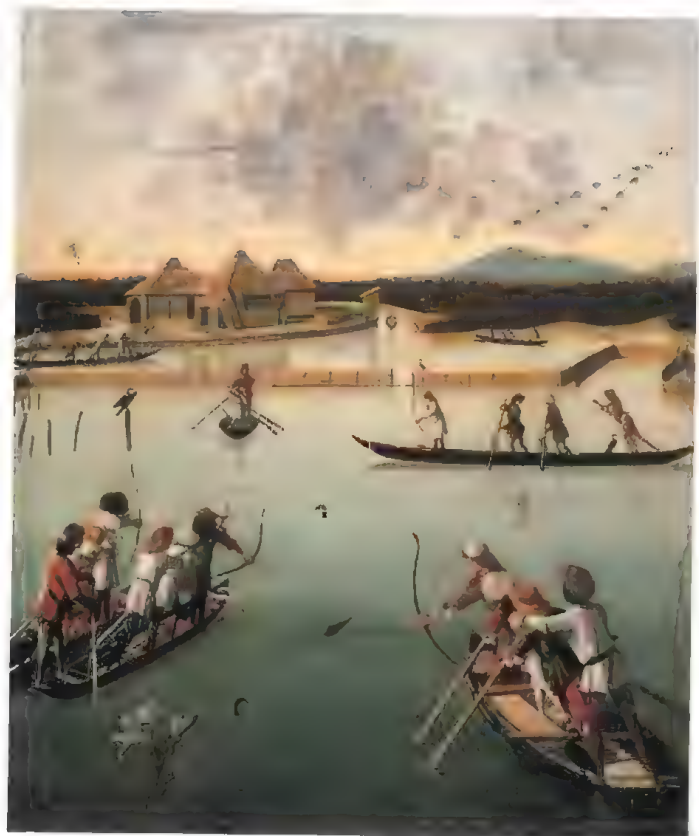




16 Vittore Carpaccio, *Lion of Saint Mark* (1516). Canvas, 130 × 368 cm. Venice, Palazzo Ducale.

between the distant and the near. For water itself moves, travels, carries along and is borne along, prompting images of journeying that transcend the movement of persons or the centrality of the individual subject. Landlocked Florence would be the home of Brunelleschian linear perspective centred on the unmoving observer, whereas the seafaring Venetians would eventually feel more at ease with representations that allow for a moving eye and for a translucent medium between figures that itself seems mobile. Normal divisions between subject and object are washed away, the boundaries flooded. To the Venetian patrician, the lapping of water at the walls of his palace placed his domicile in touch with the keel's way, and reminded him of the sea-borne traffic that was carried to and fro over the horizon, moving between the visible and the out-of-sight. The space of the settlement, the city, the home of a closed élite class – which until the later fifteenth century was largely without landed estates – was dense, confined and intricate. The surrounding lagoon provided open spaces for recreation, hunting duck and fishing, as is shown in Carpaccio's *Duck-shooting in the Lagoon* (fig. 17). Beyond this lay the vaster spaces of commercial exchange in the Mediterranean and the Orient.<sup>11</sup> Between this density of the centre, and the over-the-horizon sources of wealth, lay a gap to be traversed – a degree of emptiness, if never a void. Under the brush of Giovanni Bellini in his maturity, and following him the painters of the

17 Vittore Carpaccio, *Duck-shooting in the Lagoon* (c.1495). Panel, 75.4 × 63.8 cm. Los Angeles, J. Paul Getty Museum.







18 Giovanni Bellini, *Sacred Allegory* (c.1490). Panel, 73 × 119 cm. Florence, Uffizi.

sixteenth century, this gap, this breathing space, becomes apprehended in painterly terms as the envelope of air that gently touches the figures, illumines their colours, softens their contours (fig. 18).

The social space at the centre of the commercial network was limited by the extent of the higher mud-banks. In the city itself the surplus that resulted from successful trading or – as on the Fourth Crusade in 1204 – from looting, could rarely be spent on increasing the scale of buildings or the size of the public spaces between them. The Venetians could not emulate the ambition of the Sienese when they embarked on doubling the size of their cathedral in the early trecento.<sup>12</sup>

### *Encrustation and perforation*

Venetians of necessity came to prefer preciousness of material and richness of colour to grandeur of scale. Florence is the city of stone, Venice of encrustation. Florentine blocks of stone convey weight (fig. 19), Venetian coloured veneers suggest lightness; and where Florence proclaims strength, Venice parades wealth. In Venice imported marbles are cut into fine slabs and attached to the brick core of the façades, or colour is spread over brick in the form of plaster finishes: neither can be cut into deeply, so surfaces appear planar yet fretted with shadow (figs 20 and 21).

Accompanying this style of encrustation and thin-wall architecture is a distinctive fenestration. In the late Gothic period traceries viewed from outside punctuate with darkness, or viewed from within perforate with light; a contrast accentuated by the brilliance of light concentrated in the canals. This perforation by bright





19 Palazzo Medici, Florence (begun 1444), by Michelozzo di Bartolomeo.



20 Façade of Ca' d'Oro (1422-33).





21 Detail of the second storey of the façade of Ca' d'Oro, with the Contarini arms (1422-33, incorporating earlier reliefs).





22 Detail of Porta di Sant' Alipio on the west front of San Marco (twelfth to thirteenth centuries, incorporating earlier carvings).



23 View from inside Porta di Sant'Alipio, transennae in silhouette.





light, so important to the development of *contre-jour* – and hence to the relationship between colour and light – has its roots in the Byzantine and Early Christian system of fenestration by *transennae*, that is unglazed screens or lattices in marble. *Transennae*, such as are to be found on the façade of San Marco in the left-hand portal, the Porta di Sant’Alipio (fig. 22), when viewed from within turn the flow of light into a pattern of bright light isolated by a mesh of darkness (fig. 23). Strangely, rather than rupturing the surface, *transennae*, by virtue of the tightness of their grids, which are necessary to prevent undue penetration by the elements or by birds, are absorbed within the planarity of the wall. Perforation becomes pattern; the brightest light and deepest dark nudge one another within the confines of their geometry. (Centuries later Charles Rennie Mack-

intosh, and, even closer to our own time, Carlo Scarpa, adapted such lattices of light and darkness to create geometric order in their architecture.)

To the coloured veneers, the encrustation of marble, was added on festival days the furnishing of carpets hung from balconies, as can be seen in the narrative canvases of Gentile Bellini, Vittore Carpaccio and Giovanni Mansueti (fig. 24). When Petrarch lived in Venice, varicoloured awnings were draped over a temporary dais outside San Marco to provide protection from the sun.<sup>13</sup> Rich colours in soft textiles overlay the hardness of marble; and the eye of the Venetian painters and their public became attuned to fine degrees of hardness and softness, of fixity and pliancy, as when silken textiles move in a current of air but marbles stand fast.





25 Vittore Carpaccio, *Healing of the Possessed Man* (1494). Canvas, 365 × 389. Venice, Accademia.

24 (facing page) Giovanni Mansueti, *Miracle of the Bridge at San Lio* (1494). Canvas, 318 × 458 cm. Venice, Accademia.



Public display of private possessions, the ritual turning outwards of what was kept within, reinforced collective ties. Over time, the connection between surpassing beauty, material value and belief in sacred destiny was forged: for the Venetian ruling class their communal wealth was a sign of God's favour. Marc' Antonio Sabellico, historian to the Republic writing in the late fifteenth century, had the priest at the solemn foundation of the city declare: 'When in days to come we attempt great things, grant us prosperity! Now we kneel before a poor altar; but if our vows are not made in vain, a hundred temples, O God, of gold and marble shall arise to Thee.'<sup>14</sup>

### *Spectacle that answers the gaze*

Ways of seeing reflect ways of being seen, for vision is socially constituted in a two-way process of giving and receiving. The more self-conscious a society, the more interactive the seeing/being seen becomes. Within the social networks of negotiation and exchange, shared vision, or what might be called the communal habits of attention, engenders its systems of signs and reciprocal acknowledgements. The Republic of Venice invited its inhabitants and visitors to experience it as spectacle, heightening the sense of the world as something that seems to look back, to return the gaze, to mirror and enhance consciousness.<sup>15</sup> Venetian festivals, whatever the propaganda of their staging, kindled participation. Writing from Venice in 1364, just after the Cretan rebellion had been quashed, Petrarch caught the mood of intense urban self-awareness in his eyewitness account of the festivities in Piazza San Marco: 'Under our eyes the swarming, well-mannered offspring of the flourishing city augmented the joy of the festival. The general gaiety was reflected and redoubled by one's recognition of it in one's neighbour's face.'<sup>16</sup> For the inhabitant such a confirmation of belonging was reassuring; for the visitor it was exhilarating. For the painter, the sense that the spectacle looks back – answers vision – would allow a new match to emerge between a perceived reality and the structures of representation in paint on canvas (fig. 25). And once represented, the visual world would never look quite the same again.

How does colour enter the social formation of seeing and being seen? Does colour play any role in the subject's sense of being at home within his social space? Paradoxically, given the variety of spectral hues and the wide range of secondary and tertiary colours, of tints and gradations of hue, colour has a universalizing power based in part upon cultural and linguistic tendencies to classify it in broad families. This universalizing power of colour is reinforced by the atmospheric effects of illumination and ambient light. Illumination that is warm or cool will establish affinity amongst the lights and another affinity among the shadows, and such affinities will cut across the entities that line and shape may separate. Such patterning by chromatic light diverts attention from the practical actions of grasping or handling, towards a more distant, more leisurely, less consumer-oriented appreciation of the visual. It is nothing less than a reorientation of the person, a lifting of the subject away from the immediacy, urgent and physical, of touching or eating. The contentment, the promise that all is right with the world, that all belongs together, which is produced by certain qualities of illumination, such as a radiant sky near to sundown, is a common experience.<sup>17</sup> By harmonies of colour the painter extends such a promise and thereby reinforces myths of political serenity amongst city and citizens. Venice, through its setting and its politics, creates a unique relation between the subject – as citizen-inhabitant and viewer – and the object viewed – the city, the work of art. Colour plays a role in this special subjectivity, operating at a subliminal level of shared experience of the climate and atmosphere of the lagoon (which in pictorial terms harmonizes colour by interweaving reflections, by softening and blending) and at the conscious level of ensign in clothes, in flags and even in the carpets hung from the balconies.

Colour is worn and manipulated, as well as seen, and every subject, as well as every person viewed, possesses colour, is born into colour, through pigmentation of skin, of eyes and hair. Of course there is no beginning to this story, no original moment of unprejudiced response to colour. In Renaissance Venice, to an unusual degree, thanks to its production of mirrors (see chapter 5), as well as its production of portraits, this interaction of seeing and being seen extends to the individual person, but attitudes to the colour of the person are



social before they are individual. In the environment of the lagoon, in which colour is unusually unstable, the demarcation between the natural and the cultural can be shifted, and will be shifted, with little fear of detection. The famed beauty of Venice as city readily embraces Venice as congregation of bodies, thus the beautiful women of Venice were frequently paraded as tokens of its wealth and refinement when foreigners visited. Few would have objected to the fact that the hair of these women was frequently dyed – blonde, ash or auburn – for this was but one refinement that Venetians could perform upon nature.

### *Encountering difference*

How did the sensibilities, the cognitive skills, the prejudices, the hierarchies of values of the inhabitants of Renaissance Venice develop? Over time systems of trade and modes of manufacture influence habits of perception, systems of values and styles of living. Medieval and Renaissance Venice was pre-eminently an entrepôt, a centre of exchange between the Orient and Europe: already in 1404 Giovanni Conversino da Ravenna described it as an international emporium.<sup>18</sup> As a place of meeting between Orient and Occident, home to many foreign communities, comparatively safe ghetto for Jews, staging post for pilgrims to the Holy Land, trading post for German and Netherlandish merchants, Venice was a city which made men aware of identity and difference. It seems appropriate that the twelfth-century mosaics of the Pentecost dome of San Marco include an unusually complete set of the nations to whom the Apostles spoke in tongues. Sixteen nations, a pair of figures representing each, fill the spaces between the windows at the base of the dome. The Egyptians (fig. 26) are rendered as dark-skinned Moors, which, as Otto Demus pointed out, shows 'that there was no ethnographic basis for the choice of types and costumes', but nevertheless indicates a typically Venetian 'pseudo-realism' in marking difference between nations.<sup>19</sup> In fact heterogeneity in Venice was far from random: variations in colour, whether in the pigmentation of skin, in costume or in merchandise, could be judged and interpreted. Magistracies, political organizations, guild regulations and social divisions ensured a



26 Egyptians, detail of mosaic in the west (Pentecost) dome of San Marco (first half of twelfth century).





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structure in which men could negotiate, agree deals, know the rules. Above all it was a city where exchange values would predominate over use values; a city where the mechanisms of money, banking and trade separate manufacturing from consuming. In Venice, a site where not just building materials but diverse objects, especially luxuries worth transporting half way round the known world, were set apart from their origins, mercantile and aesthetic attitudes grew up together. Colour as gratuitous will be valued here.

### *Counterfeit and accumulation*

As traders and dealers, bringing manifold wares – textiles, ceramics, marbles – to the city, Venetians were precocious in nurturing the collector's mentality. As early as the mid-fourteenth century Oliviero Forzetta came from nearby Treviso to Venice to buy antiquities, including cameos, coins, gems and statues.<sup>20</sup> By the end of the fifteenth century the trade in antiquities was flourishing. Now the collector, like the merchant, does not necessarily buy something so that he can use it for the purpose for which it was originally made. The coins the antiquarian buys have value but are no longer common currency; the significance an antique cameo held for a Renaissance collector differs from that which it held for its first wearer; in this slippage between original meaning, or original use, and later appreciation the aesthetic attitude finds a place to grow.

With works of such value passing through their hands it is not surprising that Venetians should have developed their own imitations and counterfeits. In a tightly limited site the products of labour, and the social relations they involve, accumulate as works (including works of art), and these artefacts in turn become incorporated into lasting habitats, the vital deposits that constitute the visible city. As Henri Lefebvre put it, 'In the

case of Venice... the surplus labour and the social surplus production were not only realized but for the most part expanded on the spot'.<sup>21</sup> In Venice the instrumentality of the world of manufacture, of labour and technique – the varied acts of doing in the lagoon city – became correlated to seeing and feeling, for what a society does with its hands conditions what it perceives with its eyes. The skill of Venetian artisans in luxury production was evident from the start of the thirteenth century when, for example, they so successfully imitated the filigree goldsmith work of earlier Mosan and Rhenish models that they established an export market to northern Europe. Venetian counterfeits, in a sense, usurped their original models. *Opus venetum ad filum*, as the Venetian goldsmiths' filigree was called, became famous.<sup>22</sup> When the Pala d'Oro of San Marco was remodelled in the fourteenth century the Byzantine enamels were framed in Venetian filigree (fig. 27) in a remarkable fusion of Byzantine and Western styles.

Artefacts, the products of labour, both embody and displace social relations. In positing that what a society does with its hands affects what it esteems with its eyes, it must be recognized that the artisans were not usually those who traded, appropriated or ultimately enjoyed the products of labour. But in medieval and Renaissance Venice the sedimentation of artefacts within the city worked to disguise their origin in labour and to absorb them into communal pride and property. This chapter has touched on how the geography of Venice contributed to this by blurring the distinction between art and nature: equally important was the role of civic piety as focused by one building, the state church of San Marco, where marbles and mosaics were absorbed into a kaleidoscope of colours and lights. In Venice Christian devotion is framed and coloured by the visual experience of San Marco: in the emergence of a Venetian aesthetic the mercantile and the religious are entwined.

27 San Marco, detail of Pala d'Oro with blue enamel and filigree, Venetian goldsmiths' work of 1342, framing earlier enamels of Byzantine origin.



### *White and red: Istrian stone and Verona marble*

In late Gothic Venice pairing of blue and gold was diversified by the pairing of two favoured building stones, the white Istrian and the red Verona. In Tuscany the dominant colour-pairing in marble-faced buildings, such as the Florentine Baptistery, is white and green: in Venice the pairing is white with red. When Francesco Sansovino, son of the architect Jacopo, published his *Venetia città nobilissima et singolare* in 1580, he followed Vasari before him in emphasizing that Istrian stone and Verona marble lent special distinction to the city.<sup>9</sup> Of Istrian, Sansovino reported, 'a beautiful and marvellous building material is the hard stone brought from Rovigno and Brioni, a citadel on the Dalmatian coast. It is white in colour and like marble, but sound and strong . . .' He described how it could be used to make statues, and rubbed with pumice and polished with felt to resemble marble.

It was this white stone that was used to edge the quaysides, to run as quoins and string-courses, and to furnish surrounds for windows and doors. A limestone, fine-grained and compact, Istrian is not as crystalline as marble; it has a dense, milky whiteness that loses none of its pallor when seen at a distance, particularly across water. Looking across to the island of the Giudecca, the Istrian membering around the doors and windows on the houses lining the north-facing waterfront is normally seen in shadow and looms pale across the interval of wide canal in contrast to the dark apertures (fig. 80). A painter's eye will register the faintly bluish cast which Istrian in shade typically picks up from the sky.

To answer Istrian's whiteness, the Venetians imported the orange-red *broccatello* from near Verona. 'Then the stone from Verona is highly valued', Sansovino explained, 'because being red and with various markings, it beautifies buildings, and they make chequered floors for churches and palaces from it, and other works which are very lovely, such as lavabos, fireplaces, cornices and other similar things.' When first quarried, carved and polished, the red mottling is strong, tending towards orange and brown: when it fades it turns more towards pink. In the lagoon, amid the blues and greens of water, the red of Veronese marble – like the reds of Venetian brick and stucco – brings an essential warmth. Green marble, by contrast, is restricted to decorative



80 View of the Giudecca waterfront in shadow.

accents of serpentine discs or small slabs of *verde antico*; there is nothing comparable in Venice to the regular blocks of *Prato verde* that characterize Tuscan Romanesque.

### *Pattern on the Palazzo Ducale*

The most influential use of Istrian and Verona was at the seat of government, the Palazzo Ducale (fig. 81). The façade on the Molo, the waterfront facing the island of San Giorgio, was rebuilt from 1340 onwards, but it was not until the Piazzetta façade was being completed after 1424, under Doge Francesco Foscari, that the present diaper facing of the upper walls was put in place. It consists of tiles of stone set in an interlocking pattern of lozenges. The longitudinal slabs are laid horizontally, each row overlapping by half to create a regular pattern of red and white that zigzags diagonally across the wall in stepped rhythm (fig. 82). At first sight it appears that all the slabs are either two squares wide or, at a few points in the design, half this; but looking closer at the shared interface in red marble between one diamond and the next, it appears that the apex of one diamond and the base of the one above consists of a slab one and a half times the standard width of the





81 Palazzo Ducale (fourteenth to early fifteenth centuries).

others. Similarly in the white and red inner diamonds the bridging slabs near the apex and base are half as wide again as the other rectangles.

The shared interface of red marble between each diamond does not quite become a continuous diagonal because of the extra width of the step at their junctions, which creates a ripple in the colour as it runs across and up the wall. Seen from the ground, this shift is just enough to maintain a teasing ambiguity as to whether the diamonds should be read as locked into a mesh, subordinate to a larger design, or whether the larger design is simply the aggregate of the individual motifs.

Originally this fabric of colour must have appeared more vibrant than today. Veronese marble bleaches in the sun and the saline air. Writing just over a century ago, Giacomo Boni maintained that some of the *broccatello* and some of the Istrian showed traces of red and white paint to camouflage imperfections and intensify contrast.<sup>10</sup> At the centre of each lozenge on the Palazzo Ducale are crosses of grey marble (mostly *bardiglio*), with some squares in Veronese red. The configurations vary, adding an element of surprise to the overall pattern.

The diaper facing is non-architectonic, a veil that disregards architectural members but begins and ends





82 The crenellation and diaper facing of the Palazzo Ducale (c.1400).

seemingly at random, like a cut from a huge roll of textile. At the bottom edge the pattern is taken up one row below the point of intersection of the diamonds and again at the roof-line the motif is cut off in mid-flow. Nor are the scale and sequence of the diamonds gauged according to the spacing of apertures in the tracery below; thrown over the building without connection to its weight-bearing structure, the veil of colour lightens the top-heavy mass of the palace.

One historian has argued that the polychromy derives from imperial buildings in Constantinople,<sup>11</sup> but the use of lozenge shapes is closer to Islamic sources.<sup>12</sup>

'The inlaid tiles of the upper wall', Deborah Howard observes, 'are reminiscent of the characteristic Persian decorative tradition, brought to Turkey by the Seljuks in the eleventh century and certainly known to the Venetians.'<sup>13</sup> However, the blues and greens of Persian tiles, refreshing in dry lands, are replaced by the Venetian builders with orange-rose and white.

Here the qualities of Venetian light demand attention. The Molo façade of the Palazzo Ducale faces south, and the great watery arena in front of it provokes a flood of light – as Turner later recorded. On cloudless days in winter the sun illuminates the façade from



an almost horizontal angle; and in summer too this low-angled light prevails near dawn and dusk, while at midday the reflections thrown up by the water add the brilliance of footlighting. This light undermines the shadows that mouldings in stone normally induce; a problem that the dense whiteness of Istrian only compounds. On days of mist or vapour, light is again lacking in direction from above, and therefore equally undermining to the force of relief in stone.

In this marine site, where the three-dimensional force of mouldings is sapped, colour differences lend order to architecture. Looking at the Palazzo Ducale on a bright day, it appears as a mass of white and rose punctuated by dark intervals – the windows and recesses. Originally this contrast must have been mitigated by colour, for it was colour that stood in for, and then usurped, the light and shade provoked by carved stone. In this sense Venetian Gothic is very different from the Gothic of northern Europe.

The Venetian interlocking between form and colour can be observed more closely on the Molo façade in two spandrels which retain the veneering in marble that, presumably, was planned for them all. In architectural theory the spandrel is an interval in the masonry of a building that justifiably appears free of the burden of weight carried by the arch and pier or column; therefore the spandrel may be filled with veneer that is self-evidently decorative and nonconstructional.<sup>14</sup> In one spandrel (figs 68 and 83) a disc is centred in a field of Veronese marble, into which roseate field have been inlaid three triangles in grey marble, pale and unveined, as large as each space allows.<sup>15</sup>

Starting from the salient axial point of this disc, the hub of mottled *verde antico* is protected by the chiselled fangs of a belt of dogtooth. Around it, radiating arcs in white and grey set the disc in a spin. All this is contained, not too closely, by a rim of billet moulding, which projects discrete from the pattern within it, spinning at its own tempo, another circle of the roulette wheel. Outside the wheel the triangles of grey, their bases horizontal in the field of mottled rose, appear delicately balanced, perfectly still. There is a beautiful fitness in the joining of colour in the flat veneer of the marble and in the geometrical mouldings that facet the shadow and light. It is likely that the mouldings were originally polychromed, for billets in Venice were



83 Detail of fig. 68.

regularly gilded on the salient face and painted dark blue on the recessed. This would not have impaired the logic of this decoration, which was to proclaim its freedom from loadbearing.

### *The façade of the Ca' d'Oro*

For defiance of gravity, contrast of light and darkness, brilliance of surface, intricacy of effect and richness of polychromy nothing can compete with the palace constructed between 1421 and 1433 by the patrician Marin Contarini, and known to posterity as the Ca' d'Oro (fig. 84).

The documents that provide the basis for Richard Goy's illuminating monograph on the building of the palace reveal the care with which Marin Contarini instructed the masons, carpenters, glaziers and painters, but caution against presuming that the patron had a master-plan worked out in all its details from the start. The reuse of materials such as low-relief carvings from the pre-existing palace, the division of the workforce between different materials, the extended time-scale of



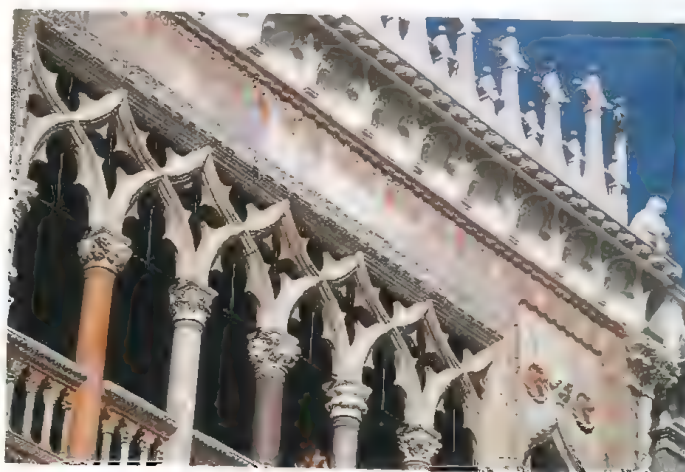


84 (above left) Façade of the Ca' d'Oro (1422–33).



85 (above right) Roofline of the Ca' d'Oro.

86 Detail of the upper loggia of the Ca' d'Oro.



the building campaign, the frequent coming and going of artisans, all mitigated against a unified design. In these circumstances gilding and polychromy were a necessary act of pictorial unification – a final pulling together. Marin Contarini's contract with the painter Zuan de Franza was drawn up after the façade was built.

Contarini's taste was steeped in the Venetian tradition. His instructions to the painter show that he conceived of the polychromy on the façade in terms of two pairs of colours, gold and blue, red and white, with the addition of the less usual contrast of black and white. Projections and sculptures of special importance – the balls on top of the crenellations, the capitals at the top on either side of the façade, the sejan lions above them, numerous rosettes and paterae or 'ducats' – were to be gilded (figs 85 and 86). Ultramarine was to be painted on backgrounds as accompaniment to gilded relief, for

example on the capitals. All this accords with earlier usage of gold and lapis lazuli. Gilding of the little balls (*pomi*) of red Verona marble that surmount the fantastically delicate crenellation would have created tiny sunbursts of gold against the sky.

Given that the Ca' d'Oro was the first private palace to have its façade entirely covered with stone and marble, and bearing in mind the similarities between the tracery on the first-floor loggia and that of the Palazzo Ducale, the squares of Istrian stone and Veronese *broccatello* – although confined to single rows of chequer used as borders – would have prompted Venetians to make the connection between Contarini's palace and the seat of patrician government (fig. 87).<sup>16</sup> The fading of colour contrast in Istrian and Verona deprives us of one of the patron's desired effects: for Marin Contarini it was essential that red marble appeared as red as







possible – ‘And then I wish’, he instructed Zuan de Franza, ‘that all of the red stonework that is in the said façade and all of the red dentil [-courses] are to be finished with oil and varnish so that they appear red’.<sup>17</sup>

If Verona marble needed improvement in Contarini’s eyes, so too did Istrian stone. Since the beginning of the century the whiteness of Istrian stone had been increasingly overshadowed by imports of marble from Carrara. Carrara had been used for the figures on the iconostasis of San Marco, on the south window of the Palazzo Ducale and for some of the figures in the tabernacles on the façades of San Marco. In 1429 Contarini instructed Giovanni Bon to leave the Istrian stone of the crenellation without its customary final smoothing and polishing, and two years later commissioned Zuan da Franza to paint it in oils with white. This was to enhance its whiteness and to counterfeit a more precious material, for Zuan was also told that ‘all of the crenellations are to be darkened [*ombrizadi*] in the manner of marble, and with some touches of black around the gold of the said crenellations, as it appears necessary’.

The wording – ‘as it appears necessary’ – acknowledges the painter’s judgement of the optical effect.<sup>18</sup> Mention of flecks of black suggests a departure from the colourful marbling of the Middle Ages. The patron may have had in mind the imitation of Greek veined marbles which were to be seen on the battlements of the richer Veneto-Byzantine palaces.<sup>19</sup> Equally, his instructions imply that another function of black paint was to reinforce relief.

By 1431 the patron would have been able to contemplate his pristine façade from across the waters of the Grand Canal; he could have observed that in the flood of light from sky and canal the encrustation of carved stone appeared little more than crinkles on the surface, while the recesses of the watergate portico and the loggie were dark intervals within the overall brightness of the façade (fig. 88). In such a situation, gilding adds zest to the sparkle that plays across the building’s surface, and it is pigment rather than shadow that articulates ornament by distinguishing figure from field, whether on newly carved foliage and rosettes, or on reused Byzantine-style strips of low relief. ‘I wish’, said Contarini, ‘that all of the roses and vines that are on the said façade are to be finished with white oil paint,



88 Loggie on the Ca' d'Oro façade.

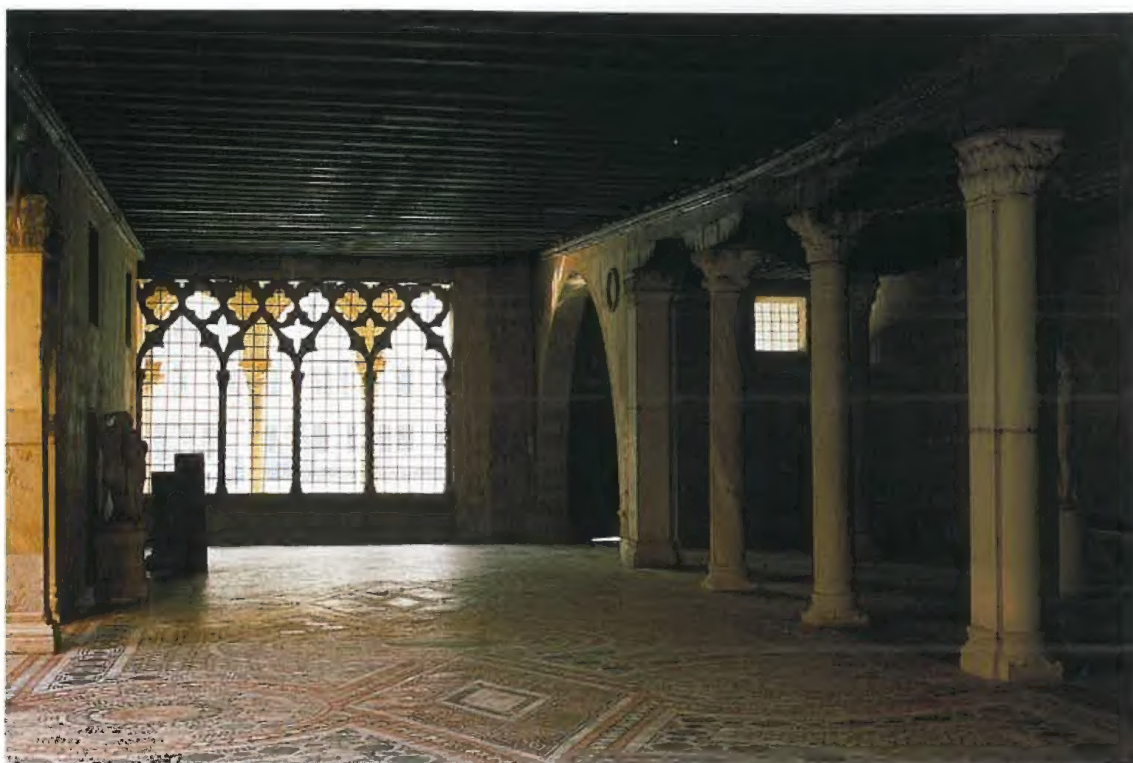
and to paint the fields with black oil paint so that it appears well. And in the same way I wish to be painted all the background to the foliage of the cornice of the first floor . . . with black oil paint.’<sup>20</sup>

A glance again at the façade of San Marco reveals how this interaction of carved ornament and wall-plane fits within the Venetian tradition. On the Porta di Sant’Alipio low-relief carving of the thirteenth century appears as a dark interlace against a brilliant field of gold mosaic. From across the canal the tracery of the loggie of the Ca' d'Oro appears bright against the dark recesses: by contrast, from the depth of the *portego* – the central hall of the *piano nobile* – the tracery is reduced to a dark silhouette by the dazzle of canal-light beyond (fig. 89).









90 Looking out from the ground-floor *androne* through screens at the Ca' d'Oro.

91 Close-up of the *androne* screen at the Ca' d' Oro.



89 (*facing page*) Looking out through the loggie of the first floor of the Ca' d'Oro.



Often in Venice the force of light beamed off water burns into the darkness of stone viewed in *contre-jour*. Observed from within a palace, a row of close-set balusters on a Venetian balcony appear dark silhouettes that wobble against the brightness. The shape-shifting dynamics of light permeate experience on the lagoon. Within the ground floor of the Ca' d'Oro the builders added an extra mesh of silhouette by inserting a screen, sharply profiled and exceedingly slender, between the *androne* – the ground-floor hall – and the portico of the watergate (figs 90 and 91). Move ever so slightly within the *androne* and the interlace of darkness is reconfigured.

Time and again the energies of Venetian buildings reconfigure according to the vantage of the viewer. Moving between inside and outside, repeatedly witnessing the exchange between darkness and light, was a daily experience of patrons and artists alike, and undoubtedly one source of the manipulation of *contre-jour* that contributed so much to the dynamism of sixteenth-century Venetian painting.

### *Houses of gold, blue and marble*

At the Ca' d'Oro Marin Contarini improved stone and marble with paint, and imitated black-and-white marble in paint. There the documents refer to the exterior: a telling reference to the internal polychromy of a Venetian palace occurs in documents relating to Giovanni da Ulma (who is probably identical with Giovanni d'Alemagna). In 1437 he was summoned to paint a chapel in the palace of the Bishop of Padua, on the strength of his decoration in the house of Giovanni Cornaro in Venice. Beneath the *hystorie* the artist was to paint 'serpentine et porfidi et straforti tuto in olio in la forma che sta quelli de messer zuan cornaro et meo'.<sup>21</sup> Evidently Giovanni da Ulma had painted the interior of Giovanni Cornaro's palace with fictive fretwork and inlays imitating serpentine and porphyry; as at the Ca' d'Oro, oil was used as the binder in marbling. Earlier in the same Paduan document, the painter is instructed to work with fine gold, the finest blue ultramarine that can be found, pure lakes and greens, and other colours all of the purest quality.<sup>22</sup>

'The houses are very notable . . . They are richly adorned with gold and blue and marble.'<sup>23</sup> This reac-

tion in 1430s by Pero Tafur, a Spaniard, encapsulates what most impressed visitors in the late Gothic period. Gold, ultramarine and marble were the materials and colours that were most precious and esteemed. In 1384 Lionardo Frescobaldi, passing through Venice on his way to the Holy Land, attended a banquet in Remigio Soranzo's house: he remarked that the interior appeared like 'a house of gold', for almost everything in the rooms was decorated in finest gold and blue.<sup>24</sup> Over the next century the luxury of domestic buildings continued to astonish.

The city depicted in the narrative canvases of Gentile Bellini and Carpaccio is one that had been embellished by extensive rebuilding since the fourteenth century (figs 92 and 93). Between about 1360 and 1460 medieval Venice, predominantly of wood and plaster, was rebuilt as a city of brick and Istrian stone. As the city grew richer – and by the early fifteenth century it was the richest in Europe – so standards of construction and finish, notably in plastering, flooring and glass fenestration, advanced to an unparalleled level of luxury, evident not just in the grandest palaces but in a wide swathe of domestic architecture.

A paean, based supposedly on a report by the brother of the Byzantine emperor John VIII Palaeologus who passed through Venice in 1438, speaks of 'that most wondrous of cities, so rich in colour and in accoutrements of gold, exquisite as a perfectly carved sculpture'. The account clearly goes beyond literary formulae, for the Byzantine visitor noted that the Palazzo Ducale and patrician palaces were 'embellished with reddish marble and gold': evidently the new fashion for Verona marble made an impression on the Byzantines.<sup>25</sup>

### *Bricks and painted bricks*

Apart from Verona marble, it was bricks that lent a flush to the late Gothic city.<sup>26</sup> The primary material for walls, they were known as *piere cotte* or simply *cotte* and were of two basic colours – most a warm red from kilns in Mestre, some a coarse-grained yellow from Treviso. Like most of the materials of Venetian architecture, bricks were often reused from earlier buildings: at the Ca' d'Oro they came from the pre-existing palace on the



## NOTES

### CHAPTER 1

- 1 Norwich 1990, p. 71.
- 2 Ibid., p. 71.
- 3 Ibid., p. 69.
- 4 *Evagatorium in Terrae Sanctae, Arabiae et Egypti Peregrinationem*, ed. C. D. Hassler, 3 vols., Stuttgart 1843, p. 400.
- 5 See the discussion of this topos in King 1986.
- 6 Quoted from Huse and Wolters 1990, pp. 8–9.
- 7 Translation from Chambers and Pullan 1992, p. 25, from Sansovino 1663, p. 384, 'Et alle finestre si costumano i poggiuoli che sportano in fuori, colonnati all'intorno: alti poco più su della cinta, molto commodi de tempi della State per ricevere il fresco.'
- 8 For film, surface and volume colour see Katz 1935, pp. 11, 15, and *passim*. I discuss surface and film colour in relation to mosaic in Hills 1987, pp. 29–31.
- 9 Gibson 1979; for a summary of Gibson's views see Gordon 1989, chap. 7.
- 10 For a philosophical discussion of how perception of the visible entails and is pre-ordained by the invisible see Merleau-Ponty 1964.
- 11 On the relation between products, works of art, and social space see Lefebvre 1991, pp. 76–7.
- 12 For the period before 1300 see Schulz 1991, pp. 419–66.
- 13 Norwich 1990, p. 141.
- 14 Burckhardt 1960, pp. 78–9.
- 15 Cf. Lacan 1977, esp. pp. 67–104, and Merleau-Ponty 1962.
- 16 Norwich 1990, p. 142, excerpted from Mrs Dobson, *The Life of Petrarch*, 2 vols., London 1805.

- 17 On the promise in the beauty of nature, see Adorno 1984, esp. pp. 91–116.
- 18 Gaeta 1981, p. 574.
- 19 Demus 1988, p. 56.
- 20 Favaretto 1990, pp. 35–6; Gargan 1992, pp. 503–17.
- 21 Lefebvre 1991, p. 76.
- 22 Hahnloser 1971, vol. II, p. 131, and *idem*, 1955.

### CHAPTER 2

- 1 Harrison 1989, p. 100, for the loot taken to Venice after 1204.
- 2 Translated in Chambers and Pullan 1992, p. 8, from Marin Sanudo, *Laus urbis Venetae*. For the treasury see Hahnloser 1971, vol. II: *Il Tesoro e il Museo*.
- 3 Ellis 1851, p. 7.
- 4 For the descriptions by Constantine Rhodios and Nicholas Mesarites of the lost church of the Holy Apostles see James 1996, pp. 111–26. James points out that these texts (Rhodios' written between 931 and 944 and Mesarites' between 1198 and 1203) dwell on the brilliance and light-bearing quality of stones and metals, and the 'multi-coloured' quality of the marbles.
- 5 On the origin and identification of some of these marbles, Lazzarini 1978.
- 6 Cited by Unrau 1984, p. 59.
- 7 I depend upon Lazzarini 1995a. See also Tigler 1995, p. 24, for regilding of 1493; p. 43 for painting in red and blue.
- 8 The names of marbles are confusing because of changes of nomenclature from country to country. Green marbles, often used as exterior revetment in Venice, are especially tricky because of inconsistent usage of the terms *serpentine* and *verde antico*. Lazzarini distinguishes between a porphyry *verde antico*, called in Venice *serpentino della stella*, and a non-porphry *verde antico* or *verde di tessaglia*. A useful catalogue of the main quarries and decorative stones in the Roman world, with a listing of ancient, Renaissance and modern names for marbles, is included in Ward-Perkins 1992, appendix 1, pp. 53–60.
- 9 Cook and Wedderburn 1903–12, vol. x, pp. 88–9.
- 10 Barral I. Altet 1985.
- 11 For a discussion of marble floors in relation to Chevreul's harmonies of analogy and of contrast, Blagrove 1888, pp. 14–16.
- 12 Ibid., p. 14.
- 13 Sansovino 1663, p. 98.
- 14 G. E. Street, *Brick and Marble in the Middle Ages*, 2nd ed., London 1874; quoted in Blagrove 1888, p. 27.
- 15 Mango 1972, p. 75. For comments on the shifting vision of the spectator in a Byzantine church see Gage 1993, p. 46.
- 16 Connell 1988.
- 17 In Norwich 1990, p. 135, from *Italian Hours*.
- 18 My comments on architecture and the body, surface and depth, owe much to the writings of Adrian Stokes.
- 19 Blagrove 1888, p. 51.
- 20 Seipp 1911, p. 37, n. 1.
- 21 Unrau 1984, p. 168.
- 22 Connell 1988, p. 110. On the interpretation of colours in Byzantium see James 1996, chap. 6 and *passim*.
- 23 Connell 1988, p. 109.
- 24 Ibid.
- 25 Gage 1993, p. 46.



- 26 On gems and marbles in the imagery of heaven, McDannell and Lang 1988.
- 27 Gage 1993, p. 46.
- 28 For a wide-ranging discussion of the theological significance of marble see Didi-Huberman 1990; for column, cloud and fire, p. 155.
- 29 Gage 1993, p. 57.
- 30 Albertus Magnus 1967, p. 128. The passage is discussed in Connell 1988, pp. 112-13. Albertus's book would have been known in Venice; a copy is mentioned in the will of Luca Sesto in 1458, see Connell 1972, p. 175.
- 31 Connell 1988, p. 112.
- 32 See Demus 1948.
- 33 Proust 1987, p. 53.
- 34 For colour in mosaic tesserae see James 1996, pp. 19-26. Harding 1989, pp. 73-102, cites archival evidence for the colours of glass tesserae imported from Venice.
- 35 Demus 1984, vol. 1, p. 25.
- 36 The most detailed account of mosaic materials used in the Venetian lagoon that I have found is in Andrescu 1984. For fifteenth-century developments in the enamelling of glass see Saccardo 1896.
- 37 Saccardo 1896, p. 190.
- 38 The best discussions of mosaic in relation to later pictorial practices are to be found in the writings of Theodor Hetzer, particularly Hetzer 1935.
- 39 For recent research on light, visual perception and machine vision see comments and bibliography in Baxandall 1995.
- 40 On Aristotelian theory, the question of colour-scales and Newton's contribution see Gage 1993, esp. chap. 9.
- 41 Saccardo 1896, p. 199 and *passim*.
- 42 I was alerted to this by an observation made by Edmund Fairfax-Lucy.

# CHAPTER 3

- 1 Seipp 1911, p. 57. For the sculpture of the iconostasis see Wolters 1976, cat. no. 146; he points out that there are traces of polychromy on the hems of the draperies.
- 2 Connell 1988, p. 122, describes the inlay as pieces of blue glass, but Seipp 1911,

- p. 57, describes them as lapis lazuli: the former appears more probable.
- 3 Humfrey 1993, p. 51.
- 4 Fogolari 1924, pp. 78-9; Connell 1988, p. 171.
- 5 Wolters 1976, cat. no. 32.
- 6 Sansovino 1663, p. 575.
- 7 Concina 1995, p. 95. For the contract see Wolters 1976, cat. no. 143.
- 8 Goy 1992, p. 211.
- 9 Vasari's comments on Istrian stone are in Vasari 1878-85, vol. 1, pp. 124-5. See Rodolico 1965, pp. 198-208.
- 10 Boni 1887, p. 126. In documents of 1372 relating to Andriolo de Santi's architecture of the Capella San Felice in San Antonio in Padua (in Sartori 1976) Verona marble is called *pietra vermiglia* (p. 8), and for the polychromy of the façade 'le quale pietre bianche deno essere bene bianche e le vermiglie bene vermiglie e bene polite e lustrate e bene congiunte' (p. 9).
- 11 Concina 1995, p. 90.
- 12 Arslan 1971, pp. 151-2, surveys the literature, but an exact source has not been suggested.
- 13 Howard 1980, p. 83.
- 14 Blagrove 1888, pp. 38-9.
- 15 Ruskin describes and illustrates this spandrel in *The Stones of Venice*, vol. 1, chap. 26 and appendix 20, and pl. 14.
- 16 Concina 1995, pp. 106-7, argues that the gilding is also a deliberate attempt to identify with the golden buildings of the patrician government.
- 17 Goy 1992, p. 287; for commentary see Boni 1887, p. 126.
- 18 Pointed out in Connell 1988, p. 151.
- 19 A suggestion of Paoletti's referred to in Connell 1988, p. 151.
- 20 Goy 1992, p. 288.
- 21 Rigoni 1970, p. 56.
- 22 'Che lavorar debbi de oro fino, azuro oltramirino, de el piu fino si trovi, et cusi de lache fine verdi laccurei et altri necessarij tuti fini', Rigoni 1970, p. 55.
- 23 Tafur 1926, p. 166.
- 24 Frescobaldi 1944, p. 14: 'Fecevi grande onore, e la sua casa pareva una casa d'oro, ed havvi più camere che poco vi si vede altro che oro e azzurro fine; e costogli dodici mila fiorini...'
- 25 Translated in Norwich 1990, p. 377.
- 26 For an overview of the history and economics of brick production see

- Goldthwaite 1980, pp. 171-212; for the Venetian guild see Monticolo 1896-1914, vol. 1, pp. 79-93 and 213-33.
- 27 Michler 1989 and Michler 1990. For painting fictive brick over brickwork see also Cristinelli 1992, p. 179. Thomas Tuohy argues that in fifteenth-century Ferrara covering of brickwork with rendering was 'almost certainly universal': Tuohy 1996, p. 197.
- 28 Huse and Wolters 1990, p. 11. Other canvases in the Cycle of the True Cross from San Giovanni Evangelista show walls with lozenge patterns: there are glimpses of two in Lazzaro Bastiani's *Donation of the Relic*, and a more obvious diaper in pink and white in Giovanni Mansueti's *Miracle of the the Bridge at San Lio*. A couple of varieties of diaper graphically rendered in an early sixteenth-century print of the *bucintoro* passing down a canal further indicate that such patterns had left their stamp on many walls of the Renaissance city.
- 29 Goy 1992, appendices 1 and 2, pp. 276-8.
- 30 Connell 1988, p. 171; the documents are printed in Fogolari 1924, pp. 93-118.
- 31 Crovato 1989, p. 17.
- 32 Ibid., p. 18.
- 33 Goy 1992, p. 196.
- 34 Sansovino 1663, p. 383.
- 35 Barbaro 1556, pp. 283-4.
- 36 Cf. Dellwing 1990, pp. 117-23.
- 37 Hempel 1980, p. 37.
- 38 Lorenzi 1868, doc. 159, pp. 68-9.
- 39 See the *mariegola* of the *tagliapietra* guild in the Biblioteca del Museo Civico Correr, Venice (Mariegole, 150), f.26r. xxxvii, 'Chel non si possa inesse dar piere de una natura cume piere de altra natura in un medesimo lavorier'.
- 40 Gentilini 1992. It is noticeable that the reluctance of Venetians to use moulded terracotta in *all'antica* architecture was not shared by the Ferrarese around 1500, although there too marble and stone was more prestigious, see Tuohy 1996, p. 188. Given the importance of Lombard masons in quattrocento Venice, it is noteworthy that in 1387 a decision had been made to change the material of the new cathedral of Milan from brick to marble: on the repercussion of this see Welch 1995, pp. 71-6.